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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/783,798	02/14/2001	David Lawrence Hill	042390P11020	3421

7590 07/23/2004

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EXAMINER

CAO, CHUN

ART UNIT	PAPER NUMBER
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2115

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DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/783,798

Applicant(s)

HILL ET AL.

Examiner

Chun Cao

Art Unit

2115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,13-18 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,13-18 and 20-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1, 3-7, 13-18 and 20-22 are presented for examination.
2. The text of those applicable section of Title 35, U.S. Code not included in this action can be found in the prior Office Action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitations "the system bus" in line 2; there is insufficient antecedent basis for this limitation in the claim.

4. Claims 1, 3-7, 13-18 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy (Kennedy), US patent no. 5,659,748 in view of Itkowsky et al. (Itkowsky), US patent no. 5,875,309 and Alexander et al. (Alexander), US patent no. 6,467,006.

As per claim 1, Kennedy teaches a method comprising:

determining a bootstrap processor from a plurality of processors in a fault tolerant multiprocessor system irrespective of an initialization time of a particular operable processor [col. 2, lines 10-20; col. 9, lines 41-50].

Kennedy fails to teach of determining a bootstrap processor from a plurality of operable processors and asserting a first signal and a second signal.

Itkowsky teaches of determining a bootstrap processor [a master active arbiter] from a plurality of operable processors and asserting a first signal [ESYNCH signal] prior to allow the plurality of operable processors [all potential arbiters] to enter a bootstrap processor arbitration [col. 5, line 66-col. 6, line 7].

Alexander teaches of asserting a second signal [synchronization phase] prior to allow the plurality of operable processors [CPUs] to enter a bootstrap processor arbitration [col. 7, lines 10-23].

It would have been obvious to one of ordinary skill in the art at time the invention to combine the teachings of Kennedy and Itkowsky and Alexander because they teach of election processing in the system, the specify teachings of Itkowsky and Alexander stated above would improve the reliability of Kennedy system by only selecting a BSP from a plurality of operable processors.

As per claim 3, Itkowsky teaches the first signal indicates that a particular processor has successfully completed an initialization sequence [col. 6, lines 1-7]. Alexander teaches the second signal indicates that all of the operable processors are ready to enter the bootstrap processor arbitration process [col. 7, lines 10-23].

As per claim 4, inherently, Alexander teaches the second signal is communicated across a system bus to each processor [fig. 1A; col. 7, lines 10-23].

As per claim 5, Alexander teaches of asserting is selected from one in a group consisting of driving a signal line to a signal line to a logical 0, driving the signal line to a

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logical 1, toggling the signal line from a logical 1 to logical 0, and driving the system bus to a logic state on a first clock cycle and releasing the system bus on a second clock cycle [col. 7, lines 26-51].

As per claim 6, Kennedy teaches that a multiprocessor system which continues to be operable irrespective of a fault occurring in any particular processor [col. 9, lines 41-46].

As per claim 7, Kennedy teaches that the operable processor comprises a processor which has successfully completed an initialization and testing sequence [col. 9, lines 20-22, 41-50].

As per claim 13, Kennedy and Itkowsky and Alexander together teach the claimed method of steps. Therefore, Kennedy and Itkowsky and Alexander together teach the claimed system to carry out the method of steps.

As per claim 14, Kennedy discloses that the arbitration protocol comprises micro code instructions [fig. 2; col. 3, lines 55-62; col. 5, lines 1-4].

As per claim 15, Kennedy discloses that the arbitration protocol comprises logic circuitry located in a processor [fig. 1; col. 5, lines 1-14].

As per claim 16, Kennedy discloses that the arbitration protocol conducts the bootstrap processor arbitration process across the system bus [fig. 1; col. 3, lines 25-36].

As per claim 17, Kennedy discloses that each of the operable processors has a bus controller [126, 138, fig. 1], the bus controller to stall transactional activity on the

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system bus until the bootstrap processor determination has been made [col. 10, lines 1-6].

5. As to claims 18 and 20-22, Kennedy and Itkowsky and Alexander together teach the claimed method of steps of claim 1. Therefore, Kennedy and Itkowsky and Alexander together teach the claimed computer readable media to carry out the method of steps.

6. Applicant's arguments filed on 5/6/2004 have been fully considered but are moot in view of new ground(s) of rejection.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Hand-delivered responses should be brought to Crystal Park II, 2121

Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun Cao at (703) 308-6106. The examiner can normally be reached on Monday-Friday from 7:30 am - 4:00 pm. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor Thomas Lee can be reached at (703) 305-9717. The fax number for this Art Unit is following: Official (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 306-5631.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chun Cao

July 20, 2004